

Land Use Planning Best Practices for Renewable Energy Development in Colorado



May 2022

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Prepared for the Colorado Department of Local Affairs and Colorado Energy Office



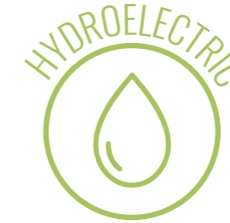
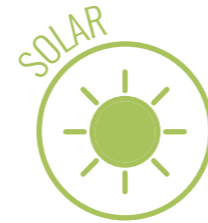
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Executive Summary

Like many states in the U.S., Colorado is reshaping its energy market to transition away from fossil fuels and towards cleaner forms of renewable energy. The Colorado Governor's Office has a goal for the state to reach 100% renewable energy generation by 2040. Additionally, the state legislature has a target of reducing greenhouse gas (GHG) emissions by 90% by 2050. Further, several Colorado local governments have set renewable energy and GHG reduction goals. These ambitious goals are meant to mitigate climate change and curb pollution for the health and well-being of Colorado residents. However, reaching those goals will require major changes for local communities including their land use management. Due to the magnitude of land needed for renewable energy production, the various types of renewable energy systems possible in Colorado, and the rapid development of renewable energy, good land use planning is essential to the energy transition.

This report was prepared for the Community Development Office (CDO) in the Colorado Department of Local Affairs (DOLA) in partnership with the Colorado Energy Office (CEO). The purpose of this research and the best practices document is to help local governments take action toward Colorado's renewable energy and GHG emissions goals. It is also an effort to highlight the hard work that is already happening across Colorado communities, especially in rural areas which are experiencing the most impact from renewable energy development.

This report is a result of examining Colorado's renewable energy policies and comparing those against nationally recognized best practices. The research included academic articles, federal and state agency reports, professional publications, and subject matter expert interviews. While there are many facets of renewable energy, this report focuses on the relationship between land use and renewable energy generation. It does not address energy efficiency or the electrification of buildings and transportation. This report includes several renewable energy generation opportunities in Colorado including wind, solar, geothermal, hydroelectric, and biogas. It also covers several different land use contexts and typologies including flat rural farmland, dense urban centers, and historic mountain towns. Ultimately, this report attempts to aggregate land use planning best practices to help Colorado local governments manage the transition to renewable energy generation.



Best Practices

Optimize government land and buildings. Colorado local governments are leading by example and installing renewable energy systems on public buildings and land. By generating their own electricity, local governments are saving taxpayer dollars and increasing community resiliency.

Support renewable energy in planning documents. Supporting renewable energy development starts with planning documents including comprehensive plans and action plans. Integrating land use plans with energy plans is crucial for success.

Specify renewable energy in land use regulations. To guide responsible development, land use regulations need to address the various types of renewable energy possible in a community. Regulations for new development can also state renewable energy requirements.

Streamline permitting processes. A simplified permitting process can benefit both renewable energy developers and the permitting administration office. There are programs and tools to help local governments streamline the processes.

Reduce negative impacts. All development, including renewable energy development, comes with some negative impacts. Adopting low impact development standards can mitigate some negative impacts.

Maximize community benefits. Renewable energy development brings several opportunities to improve local infrastructure, generate revenue, and create new jobs.

Form strategic partnerships. Renewable energy development spans several sectors of public, private, and non-profit entities. Several local governments have formed successful partnerships to accelerate renewable energy adoption in their communities.

Be flexible and creative. Renewable energy technology is evolving, which requires local governments to be innovative and solution-focused when planning and permitting clean energy projects such as anaerobic digesters.